

head; interorbital space narrow; mouth extending to below centre of eye; no canines; head naked, with very regular series of sensory papillæ; a short nasal barbel and a pair of mental barbels. Dorsal VI, I 12; longest ray of first dorsal nearly $\frac{1}{2}$ length of head. Anal I 9. Pectoral as long as head. Ventral with well-developed anterior membrane, not reaching vent. Caudal rounded. Caudal peduncle $1\frac{2}{3}$ times as long as deep. Scales ctenoid, 37-40 in longitudinal series, 10-11 between dorsal and anal. Yellowish brown above, speckled with brown, with 3 or 4 ill-defined dark brown cross-bars; dorsal and caudal fins spotted with dark brown; a round blackish spot on upper part of pectoral fin, near its base.

Total length 80 mm.

Three specimens from the Bengo River at Cabini.

Native name: Kimbunu.

In the presence of a nasal barbel and a pair of mentals this species differs from all the *Gobius* with barbels which are placed in the genera *Chaturichthys*, *Ainosus*, *Trienopogon*, &c., and deserves to be made the type of at least a subgenus, for which the name *Nematogobius* is proposed.

LXII.—*New Species of Heterocera from Costa Rica.*—III.

By W. SCHAUS, F.Z.S.

Lasiocampidæ.

Claphe francesca, sp. n.

Body above lilacine buff; the anal hairs and subdorsal basal tuft brownish. Fore wings: the basal area above submedian, and the medial space above vein 3 light grey with two black points at end of cell; the costa finely, the inner margin and marginal space light fawn-brown; a white basal spot below cell; a curved geminate darker grey antemedial line with a paler spot on costa; the postmedial whitish buff below vein 5, incurved at vein 2, oblique and geminate from costa, angled at vein 7 and filled in with grey to vein 5, where it is followed by a brown streak between 5 and 6; a subterminal fine whitish lunular line; below vein 5 a fine paler line between subterminal and postmedial; a terminal paler line. Hind wings buff; the veins beyond a medial brownish shade slightly darker; the outer half of costa pale reddish brown crossed by a subterminal paler line.

Expanse 28 mm.

Hab. El Sitio.

Claphe cariosa, sp. n.

♂. Body brown, the tegula and patagia outwardly white. Fore wings: the inner margin below submedian, the outer margin and postmedial space below vein 4, also a spot on costa before apex light brown; the wing otherwise whitish grey irrorated with brown; a brown subbasal spot on costa; the antemedial and postmedial line broad, rather close together, meeting at submedian; the medial space below vein 3 more thickly irrorated with brown; the postmedial followed by white points on veins 5 to submedian; subterminal brown spots on whitish portion, shaded with white below vein 4. Hind wings brown; the costa and postmedial space beyond cell to subterminal white, thinly irrorated with brown; a medial dark brown line on costa.

Expanse 35 mm.

Hab. Tuis.

Closely allied to *C. vicina*, Schs.

Claphe laverna, sp. n.

♂. Palpi, head, collar, and patagia lilacine buff and brown. Thorax and subdorsal tuft at base of abdomen black and dark brown. Abdomen light reddish brown; anal hairs grey. Fore wings roseate buff, thickly irrorated with reddish scales; an irregular black antemedial line preceded by a fine reddish-brown line; a postmedial black line dentate to vein 4, then lunular, outwardly shaded with greyish brown, broadly between veins 7 and 9; a dentate grey-brown subterminal shade. Hind wings roseate buff on inner area; the costa broadly irrorated with reddish brown; a dark postmedial and marginal shade, the latter extending to anal angle.

Expanse 37 mm.

Hab. Banana River.

Allied to *C. deusta*, Wlk.

Claphe barda, sp. n.

Palpi buff, dark brown laterally at base. Head mottled buff and black. Collar and thorax black mottled with brown, the former with a broad grey streak outwardly from behind vertex. Abdomen brown, darkest subdorsally on two basal segments, followed by black and grey subdorsal scales. Fore wings: costal margin to postmedial and a space beyond cell whitish, the latter containing some black spots; below subcostal and vein 4 to postmedial the wing is mottled dark grey, black, and dark brown with a black streak near base of

cell; traces of three oblique light brown lines on costa; postmedial brownish, geminate, the inner portion strongly marked with dark velvety brown from subcostal to near vein 4; the outer margin is broadly paler and browner with a very irregular blackish subterminal line, and crossed by dark brown veins; the fringe reddish brown with pale points. Hind wings: the costal half greyish white, with a grey geminate postmedial line and an interrupted subterminal line; the inner half of wing light brown. Underneath light brown; a subterminal dark shade on fore wings.

Expanse 38 mm.

Hab. La Florida, Sixola, Guapiles.

Allied to *C. vithersi*, Schs.

Claphe celebris, sp. n.

♂. Palpi brown. Head and collar grey, mottled with brown. Thorax brown; patagia blackish. Abdomen brown with a dark subdorsal tuft at base. Fore wings: the cell, costal margin, and above vein 7, and a short space beyond cell between veins 3 and 5, greyish black, crossed by black veins; inner and outer margins buff, thinly irrorated with darker scales; the antemedial line fine, wavy, black; the postmedial whitish on costa, then fine whitish buff, very indistinct, preceded below vein 3 by a lunular blackish line, and followed by short dark streaks on veins; the postmedial shade heavy, blackish, inset between veins 2 and 3, and 4 and 6; veins on light portion irrorated with dark brown; fringe grey-black spotted with buff. Hind wings light brown; the outer margin buff; a large blackish space at apex, and a similar subterminal shade.

Expanse 30 mm.

The female has the pale portion of fore wings thickly irrorated with reddish brown, the markings duller and more suffused. The hind wings are grey-brown, with buff marginal spots.

Expanse 43 mm.

Hab. Tuis, Juan Vinas, Sixola.

Claphe definita, sp. n.

♂. Head dark grey with two buff streaks. Collar and thorax dorsally dark grey, outwardly reddish brown, with a subdorsal buff streak. Abdomen dark brownish grey. Fore wings very dark violaceous brown; a reddish-brown spot at base; the medial space below cell, and the inner margin, light buff-brown; the antemedial line irregular, outcurved,

interrupted, light buff-brown; the postmedial very fine, similar in colour, finely wavy, barely perceptible on costal half of wings, preceded by a darker line on pale portion of wing; three subterminal small white spots between veins 3 and 6, followed by fine white lunules; terminal buff spots on veins. Hind wings dark slaty grey; the costal margin dark violaceous brown; a faint pale medial line to inner margin above angle; terminal points less distinct; fringe brown, finely buff at base. The costal margin of hind wings is deeply excavated, then very oblique to vein 7.

Expanse 33 mm.

Hab. Juan Vinas; Nov. El Sitio, Sixola.

Claphe maria, sp. n.

♂. Head and thorax mottled buff and blackish scales. Abdomen brown, darkest subdorsally on two basal segments; some greyish scales terminally. Fore wings buff-brown, very thickly irrorated with black and brown to postmedial; traces of an antemedial line; a small black spot at end of cell; the postmedial dark brown, excurved, and oblique from costa, sharply curved around cell, lunular to inner margin, with white points on veins; the subterminal dark brown deeply lunular, dentate, followed by dark streaks on veins; fringe brown with pale spots at tips of veins. Hind wings brown; the costal margin to subterminal darkly irrorated like the fore wings; the subterminal dark, dentate at apex, then lunular, combining with the dark tips of veins to form round marginal spots. Underneath light brown, the subterminal line less distinct.

Expanse 43 mm.

Hab. Tuis, Sixola, Juan Vinas.

Allied closely to *C. theresa*, Schs.

Claphe elena, sp. n.

♂. Legs, head, and thorax whitish grey with some dark brown hairs. Abdomen light brown, terminally streaked with grey. Fore wings grey, the base tinged with whitish, the outer margin with pale brown, irrorated thinly with blackish scales, especially on medial space below cell; the antemedial blackish, dentate, outwardly curved, geminate from subcostal to vein 3, deeply indentate below vein 2; a black point in cell; the postmedial geminate, oblique from costa, finely dentate to vein 7, then incurved, lunular, and brownish to inner margin, with white points on veins, and inward black streaks on veins 2-5; a fine irregular subterminal brownish line; the outer margin with dark streaks

on veins, those on 2, 3, and 5 extending within the subterminal; fringe light brown, with pale buff spots. Hind wings light brown; the costal margin broadly grey, with wavy dark postmedial lines; a subterminal dark line to anal angle; terminal dark streaks on veins. Underneath light brown, a subterminal dark line.

Expanse 42 mm.

Hab. Juan Vinas, Tuis.

Allied to *C. teresina*, Schs.

Claphe torrida, sp. n.

Body brown; tufts on legs, a streak on head, collar, and a subdorsal spot at base of abdomen dark violaceous brown. Fore wings reddish brown, tinged with paler reddish brown on costa and inner margin; the outer margin pale buff, inwardly curved from costa before apex to near end of cell, narrower near tornus, and irrorated with reddish brown below vein 4; a subterminal row of dark steel-grey spots, and some reddish brown on extreme margin; fringe light brown, darkly spotted from apex to vein 5, and below it with a dark line; some antemedial dark steel-grey spots, partly shaded with whitish scales; a broad dark steel-grey shade from end of cell to costa; a postmedial row of whitish spots on veins, faintly connected by a lunular dark shade. Hind wings reddish brown; the outer margin irregularly buff-brown; a similar medial line.

Expanse, ♂ 29 mm., ♀ 38 mm.

Hab. Juan Vinas; June. Tuis.

Allied to *C. pompilus*, Dogn.

Claphe nebula, sp. n.

♂. Head and thorax mottled dark brown and ochreous. Abdomen ochreous brown; a tuft of hairs similar to thorax subdorsally at base; anal hairs brown. Fore wings whitish grey, thinly irrorated with brown; the veins beyond postmedial dark brown; some brown at base; a geminate, irregularly curved antemedial line, olivaceous brown; a postmedial geminate line of the same colour, slightly curved below costa, and finely wavy to middle of inner margin, the outer portion of the line expanding into a broad shade below vein 6; submarginal angled dull greyish spots between veins 2 and 5, and 6 and 8; fringe olivaceous brown, with pale spots at tips of veins. Hind wings whitish, the veins terminally brown; a fine dark medial line; the inner margin broadly covered with ochreous hairs.

Expanse 33 mm.

♀. Body dark olivaceous brown, the last three segments of abdomen ochreous. Fore wings: the base olivaceous brown, the outer half of wing more of a dull dark smoky brown; the antemedial darker, geminate, excurved below costa, incurved below vein 2; a dark spot at end of cell, closely followed by the irregular postmedial, leaving the medial space very narrow; the medial space is dirty white; a similar curved shade from vein 6 to costa near apex, preceded by a dull brownish-grey subterminal shade, which curves outwardly below vein 6 and extends to tornus. Hind wings dark smoky grey; the costa with whitish shades and apical spots.

Expanse 47 mm.

Hab. Sitio, Sixola, Juan Vinas, Tuis, Cachi.

Claphe directa, sp. n.

♂. Head and thorax grey irrorated with ochreous hairs. Abdomen ochreous; anal hairs and a subdorsal basal patch dark grey. Fore wings: the base light grey limited by a dark antemedial line, angled on costa, indentate above submedian, joined on inner margin by an oblique line from base of cell; these lines are faintly geminate; some ochreous hairs at base of inner margin; the medial space white; the postmedial dark grey, geminate, nearly straight and slightly oblique; the outer space grey with a darker subterminal dentate shade, outwardly shaded with white especially towards apex; the veins all dark grey. Hind wings white; the inner area broadly ochreous; a dark medial line curved before inner margin; a subterminal grey shade at apex; fringe dark grey.

Expanse 36 mm.

Hab. Juan Vinas, Tuis, Sixola.

This species is closely allied to *C. lacinia*, Druce, which has, however, the medial white space narrower, the antemedial line rounded, not angled, and the subterminal grey shade on hind wings heavier and more extended.

Claphe larundina, sp. n.

♂. Head and collar buff-brown. Thorax shaded with dark brown. Abdomen light brown. Fore wings: the basal area dark brown with a small cluster of white scales above submedian, and limited by a geminate dark brown line, inwardly edged with light brown, only slightly curved from costa to inner margin; the rest of the wing greyish brown; some white on discocellular; the postmedial with white points on

veins; a dentate, brown marginal shade. Hind wings light brown, the basal half of costa dark brown; the apex and outer margin tinged with grey. Underneath light brown; a dark medial line on costal half of hind wings.

Expanse 29 mm.

Hab. El Sitio, Juan Vinas.

Allied to *C. albidifascia*, Wlk., and *C. larunda*, Druce, which is wrongly numbered on the plate in the 'Biologia,' but browner in colour, and devoid of the white mottlings underneath.

Claphe poasia, sp. n.

♂. Head and collar greyish. Thorax mottled grey and dark brown. Abdomen light brown. Fore wings: the base light brown shaded with reddish brown above cell and at base of cell, limited by a slightly curved reddish-brown line, followed by a blackish-brown line; outer portion of wing grey irrorated with brown; a fine dark brown postmedial line almost straight, indentate on veins, followed by a brown shade, angled below costa, closer to it on inner than on costal margin; a wavy dentate subterminal dark grey shade. Hind wings light brown; the basal half of costa darker brown; the outer half and a part of outer margin whitish irrorated with grey.

Expanse 44 mm.

Hab. Volcano Poas, 7000 ft.

Allied to *C. larunda*, Druce, but much larger and quite distinct.

Claphe egra, sp. n.

♂. Palpi buff-brown, dark brown at base. Head and collar dark brownish grey. Thorax buff. Abdomen pale buff-brown, with subdorsal dark brownish-grey tufts on basal segments. Fore wings: the base pale buff with some brown shadings on costa, limited by a curved medial dark brown line, followed by buff and a blackish-brown line; postmedial space dark grey irrorated with white towards costa, containing a short dark streak on discocellular; this space outwardly irregular, followed by a dark buff shade divided by a fine brown line; subterminal space dark grey, outwardly edged above vein 2 by a still darker irregular shade; the outer margin brownish; fringe dark grey spotted with buff. Hind wings buff-brown; base of costa dark brown, limited by a dark medial line which crosses the wing; a subterminal grey shade wide at apex and at vein 3. Underneath brownish

buff; heavy subterminal dark brown shades, and finer lines postmedially on costa.

Expanse, ♂ 33 mm.

♀. Head and thorax dull dark brown; an ochreous streak on patagia. Abdomen slightly paler brown. Fore wings dull dark smoky brown; the basal third ochreous, irrorated with a few dark brown scales, and outwardly crossed by a brown line, obliquely curved from costa to median, and again below cell; an irregular postmedial narrow ochreous shade crossed by a wavy brown line; an irregular subterminal blackish-grey shade. Hind wings: the costa broadly similar to fore wings with an ochreous space postmedially, irrorated with brown; the rest of the wing brown faintly tinged with lilacine.

Expanse 46 mm.

Hab. Juan Vinas, El Sitio.

This species is allied to *C. gera*, Schs., but larger and with much paler hind wings.

Claphe lepta, sp. n.

♂. Body and wings rich brown. Fore wings: basal half mottled with black chiefly in and below cell, and crossed by a fine irregular white line, incurved before a small pale spot at end of cell, and indentate below vein 2; this dark space is followed by a brownish-buff band, slightly curved below costa, and is separated from the brown outer space by a fine dark brown, geminate, postmedial line, with fine white points on some of the veins; a very faint dark subterminal line. Hind wings: the apex paler crossed by a dark subterminal line; a blackish-brown medial streak on costa. Underneath brown, the veins paler; a faint dark medial line on both wings.

Expanse 27 mm.

Hab. Sixola; Sept.

Claphe lenea, sp. n.

♂. Head, collar, and abdomen dull brown. Thorax and a subdorsal tuft at base of abdomen grey. Fore wings: the base white irrorated with black; the medial space clearer white; the outer half thickly irrorated with brown; an ante-medial black line nearly straight from costa to vein 2, then inset and oblique to middle of inner margin; the postmedial dark brown, fine, forming three little upward curves below costa, between veins 3 and 5, and below vein 2; an irregular brown subterminal shade. Hind wings dull brown; the costal

margin broadly, the outer margin to near anal angle narrowly grey; medial and subterminal dark lines.

Expanse 33 mm.

Hab. Juan Vinas.

Claphe capillata, sp. n.

Body and wings brown, the head, thorax, and fore wings tinged with lilacine. Fore wings: basal, geminate ante-medial and postmedial line finely lunular, irregular, dark velvety brown; the postmedial followed by a row of dull brown spots, and both are outwardly shaded with greyish brown; two minute dark spots at end of cell; a subterminal row of dull brown spots faintly edged outwardly with greyish, and preceded by a slight similar shade at apex. Hind wings: a narrow terminal greyish line at apex.

Expanse 28 mm.

Hab. El Sitio; May. Juan Vinas, Cartago.

Claphe lankesteri, sp. n.

♂. Body above and legs mouldy grey, underneath brownish buff. Fore wings buff, thickly irrorated with dark brown; inner margin and outer margin below vein 4 mouldy grey, edged above on basal half by a whitish shade, and inwardly from outer margin and along vein 4 by a dark greyish-brown shade almost broken into spots; a subterminal row of small brown spots above vein 4, coalescent and edged with clear buff. Hind wings light brown; a greyish streak along inner margin; a faint darker medial shade; a subterminal and terminal buff line; some greyish spots on fringe. Underneath buff, with brownish streaks on costa and towards apices.

Expanse 37 mm.

Hab. Juan Vinas; June.

This species, which I have named after Mr. C. H. Lankester of Cachi, is closely allied to *C. marna*, Schs., from Southern Brazil.

Claphe carola, sp. n.

♂. Body and wings brown. Fore wings: an antemedial darker line spotted with white; a dark discal linear spot hardly visible; the postmedial finely wavy, darker brown spotted with white, followed by a faint lilacine shade near costa; the subterminal darker, remote from margin, not

reaching inner margin. Hind wings with the fringe slightly darker.

Expanse 33 mm.

Hab. Sixola ; March, Sept.

Claphe sigurda, sp. n.

Head and abdomen lilacine brown. Thorax dull reddish brown. Fore wings dull reddish brown, the lines buff ; the antemedial line straight ; the discal spot thick, linear, blackish ; the postmedial line angled below costa and slightly oblique to inner margin, followed by a fine more oblique line from above vein 5 towards apex ; a fine lunular outwardly curved subterminal line from vein 6 to inner margin near tornus. Hind wings lilacine brown, the costal margin dull reddish brown ; a faint pale outer line incurved at cell, the costal margin of hind wings is nearly straight, then oblique to below vein 7, beyond which it is rounded.

Expanse 28 mm.

Hab. Sixola ; March. Peralta.

Claphe sobrina, sp. n.

♂. Body brown ; some darker brown on head, posteriorly on collar, and subdorsally on thorax and abdomen at base. Wings light brown. Fore wings thinly irrorated with darker brown ; a blackish line at base ; an outwardly curved brown-black antemedial shade ; an oblique similar medial shade on costa to discal spot ; the postmedial fine, dark, angled below costa, and followed on costa by a small buff spot, inwardly oblique to vein 5, then wavy to inner margin, followed by a less distinct and finer shade ; a subterminal row of dark spots between the veins ; fringe dark grey, spotted with buff-brown. Hind wings light brown, mottled with darker brown on costal margin ; a faint geminate dark shade from costa to inner margin ; a faint buff subterminal line ; fringe as on fore wings.

Expanse, ♂ 26 mm.

The female is darker, the antemedial shades more suffused, the postmedial straighter with buff points on veins.

Expanse, ♀ 33 mm.

Hab. Juan Vinas, Sixola, Tuis, Cartago.

Claphe yoha, sp. n.

Head and thorax mottled brown, lilacine grey, and black. Abdomen brown. Fore wings : the basal half brown, the

costa and veins black, and some black basally below cell; the inner margin at base clearer lilacine brown, limited by a wavy black line, closely followed by a white spot at end of cell; the outer portion of wing lilacine grey thickly irrorated with light brown; the postmedial line very faint, dark, incurved beyond cell and with white points on veins; the subterminal line broken, very faint and indistinct. Hind wings: the costal margin brown shaded with black, limited by a paler line; the basal area below cell to near tornus brown; the outer margin broadly similar to fore wings. Underneath light brown; a blackish medial line on costal margin of hind wings.

Expanse 30 mm.

Hab. Sixola; Sept. Guapiles.

Claphe sonia, sp. n.

♂. Head and thorax brown irrorated with buff scales. Abdomen brown, with a darker subdorsal tuft at base. Fore wings brown irrorated with buff, and darkest on medial space and outer margin; small whitish basal spots; dark subbasal spots on costa and inner margin; the antemedial wavy, dark brown, inwardly edged with whitish; an irregular black spot at end of cell; the postmedial finely dentate, curved around cell, partly edged outwardly with white, and followed by a lunular buff outer line; a buff streak between veins 4 and 5; subterminal dark brown spots, outwardly edged by curved buff lines, and preceded between veins 5 and 7 by lilacine white patches, and above vein 7 by a dark streak; fringe brown and buff. Hind wings brown, the costal margin mottled with grey and spotted with darker brown; a short whitish subterminal line at apex. The costal margin of hind wings short, slightly excavated, then oblique to vein 6, beyond which it is rounded.

Expanse 28 mm.

Hab. Sixola; Sept. Juan Vinas, La Florida.

Claphe dormia, sp. n.

♂. Body reddish brown, with some darker mottlings on collar and thorax. Fore wings: the base, cell, and costa to postmedial, a shade from cell to outer margin, and a broad streak on costa before apex olivaceous brown, otherwise whitish grey, irrorated with darker scales; an antemedial and a postmedial row of whitish spots on veins, connected by a fine dark line; a subterminal irregular row of small dark

spots ; a black spot at end of cell. Hind wings light brown ; the costal margin darker, and with broad medial and post-medial shades ; a subterminal series of dark spots not reaching anal angle. Underneath light brown, with traces of dark subterminal spots.

Expanse 29 mm.

Hab. Juan Vinas ; June. Sixola, Guapiles, Tuis.

Claphe canities, sp. n.

♂. Body olivaceous brown. Fore wings: the base to discal spot whitish, irrorated with yellowish and olivaceous brown scales to antemedial, which is fine, geminate, dark, nearly straight ; discal spot dark, linear ; the outer portion of wing olivaceous brown, with a nearly straight darker line just beyond discal spot, followed by a broader irregular dark shade ; the subterminal dark shade very broad, outwardly curved at apex. Hind wings: the costal half whitish, irrorated with olivaceous brown, otherwise olivaceous brown ; a medial dark shade, and a broad subterminal darker shade.

Expanse 36 mm.

Hab. Juan Vinas ; Nov., Jan.

Claphe phyllis, sp. n.

♂. Body dark brown, shaded with black on thorax. Fore wings light brown ; the costal half from base at submedian to postmedial blackish, crossed by a broad light brown line, and some antemedial white points ; the postmedial which is coalescent with the black portion has white points on the veins ; a subterminal row of black spots, oblique, coalescing on costal margin, followed by another black spot at apex of costa. Hind wings duller brown ; the costal margin suffused with black ; medial and submedial dark brown lines, edged with grey on black portion. Underneath light brown ; fore wings with postmedial geminate line crossed by faint buff lines on veins ; subapical black spots ; hind wings with a similar postmedial line, though rather darker, also an interrupted dark subterminal shade.

Expanse 30 mm.

Hab. Tuis ; Aug.

Claphe attenuata, sp. n.

Body light brown, the thorax and patagia posteriorly darker. Fore wings dark brown ; a small brown spot below cell near base ; a geminate antemedial fine dark line shaded

with grey; a round velvety-black spot at end of cell; a post-medial dark line very fine, except on costa where it is curved and oblique, slightly outcurved at vein 4, followed by a buff shade; beyond the space is lighter brown crossed by a broad subterminal grey shade on which is a series of blackish-brown spots and is preceded on costa by a dark brown shade. Hind wings dark brown; a whitish streak on costa near apex.

Expanse 21 mm.

Hab. Sixola.

A specimen from Guapiles is lighter brown, with the round discal spot.

Specimens from Juan Vinas are still paler with all the markings reduced, and the discal spot consisting of a dark streak.

Claphe jeba, sp. n.

♂. Body reddish brown; the patagia with dark streaks. Fore wings brown, heavily shaded with black and brown-black at base, basally between veins 2 and 3, in cell, and between veins 5 and 9 to subterminal; an antemedial and a medial brown line on costa; the postmedial geminate, very oblique from costa, curved, interrupted between 5 and 6 by a small pale spot, then very oblique inwardly, and wavy to inner margin; a light brown postmedial space between 3 and 5; a subterminal lunular blackish shade, edged with lilacine grey, broadly so at apex. Hind wings brown; the outer margin shaded with black, on which is a subterminal white line, most noticeable at apex.

Expanse 23 mm.

The female has the black shading of fore wings less pronounced, more smoky; the hind wings blackish brown.

Expanse 30 mm.

Allied to *C. libnites*, Druce, and *C. marginata*, Schs., but very much darker.

Claphe indentata, sp. n.

♂. Body light brown; darker subdorsal tufts on abdomen. Wings light buff-brown. Fore wings: a whitish antemedial spot, and below it a dark brown streak from base extending to middle of wing along vein 2; a dark geminate antemedial line from costa to vein 2; the outer portion of cell and space between veins 2 and 6 to postmedial lilacine brown, with still darker irrorations between 5 and 6 beyond cell; the post-medial dark brown, much incurved at vein 2 to meet dark line, followed closely by a lunular dark line and shade, both

obsolescent between 5 and 6; the subterminal space whitish, crossed by a grey shade; the extreme margin shaded with brown; a dark line at base of fringe, interrupted at veins. Hind wings: a subterminal curved grey shade.

Expanse 26 mm.

Hab. Juan Vinas.

Also allied to *C. libnites*, Druce, and *C. marginata*, Schs.

Besides the above new species, the following species of *Claphe* were also found in Costa Rica:—*phedonia*, Stoll, *charax*, Druce, *laronia*, Druce, *amathuria*, Druce, *zurcheri*, Druce, *thyatira*, Druce, *limba*, Druce, *larunda*, Druce, *lacinia*, Druce, *albidifascia*, Walk., *albigrisea*, Schs., *modesta*, Druce, *gera*, Schs., *marginata*, Schs., *guttularis*, Walk., *praxithea*, Druce, *melancholica*, Btl., *vitripuncta*, Schs., *obliterata*, Schs., *rundala*, Schs., *consolabilis*, Dyar, *deusta*, H.-S., *libnites*, Druce, *submarginalis*, Walk.

Notodontidæ.

Nystalea guzmani, sp. n.

Palpi light grey in front, tipped with brown. Frons and collar dull greyish black; vertex shaded with buff. Thorax brown; a whitish patch anteriorly on patagia. Abdomen dark fuscous above, whitish buff underneath. Fore wings olivaceous brown, a small black spot at base of cell, followed by some fine, indistinct, wavy, dark transverse lines; an antemedial whitish patch in cell and a streak above it on costa; a faint lunular, geminate, medial line, followed by a dark brown oblique streak from costa to just below vein 2, and a finer similar line; spot at end of cell large, irregular, outlined in white, preceded and followed by a little white; a postmedial line and dark streaks, interrupted by some white scales beyond cell, curved from costa to submedian vein; from postmedial to apex a broad white shade and some white points on veins 2-4; a short black streak between veins 7 and 8 on white space; a fine, irregular, dark marginal line. Hind wings fuscous, slightly whitish at base. Underneath: fore wings dark grey; costal margin white, with dark spots towards apex; the outer margin shaded with grey and a marginal dark line. Hind wings whitish; a broad dark grey submarginal shade.

Expanse, ♂ 53, ♀ 56 mm.

Hab. Juan Vinas.

Nystalea striata, sp. n.

Palpi buff, streaked with dark reddish brown. Head and thorax reddish brown, shaded with buff anteriorly. Abdomen above dull dark brown; an ochreous shade subdorsally at base and a subdorsal pale line. Fore wings dark violaceous brown, somewhat silky and thinly irrorated with lilacine scales; the inner margin narrowly light reddish brown; duller brown streaks between the veins; darker transverse lines in sets of three, wavy; the basal lines only on costa, the antemedial on costal margin and between vein 2 and submedian, the postmedial on costal margin and between vein 3 and submedian, though otherwise faintly visible; a faint irregular brown spot at end of cell; a long spot on costa at apex above vein 7, light brown streaked with reddish, and with buff along 7; small, marginal, paired, dark brown spots between veins. Hind wings fuscous, somewhat whitish at base.

Expanse, ♂ 58, ♀ 56 mm.

Hab. Juan Vinas, Port Limon.

Nystalea discalis, sp. n.

♂. Head and collar rufous, with paler lines and darker patches on collar. Thorax similar, the patagiæ grey irrorated with brown. Abdomen dull brown; buff lateral patches at base; anal segment rufous. Fore wings light grey; the inner margin shaded with brownish grey; the veins spotted with black, except on medial space and towards apex; a faint basal and three fine subbasal lines; three antemedial lines, most heavily marked above and below cell, and shaded with rufous brown; at end of cell an almost triangular black line, with a short black line projecting towards base; a faint postmedial grey line, followed by three rows of grey transverse streaks between the veins, heaviest between veins 2 and 4; a subterminal rufous-brown shade from vein 7 to inner margin; marginal black spots preceded by smaller paired spots between the veins; fringe grey, with brown spots between veins. Hind wings fuscous, the base and discal area somewhat whitish; the veins dark; the fringe pale buff. Underneath: the fore wings are brown, shaded with reddish subterminally; a buff streak below costa; the outer margin greyish, with the veins buff. The hind wings whitish; the veins and outer margin fuscous; the costal margin broadly rufous brown; buff terminal shades, especially at apex.

Expanse 60 mm.

Hab. Juan Vinas.

Allied to *N. nyseus*, Cr., and *guttulata*, Schs.

Nystalea nyseus collaris, subsp. n.

♂. Differs from *N. nyseus*, Cr., in having the head and collar dark velvety brown, almost black.

Expanse 57 mm.

Hab. Juan Vinas; June.

Pentobesa placida, sp. n.

Palpi and frons dark brown and buff. Vertex, collar, thorax, and abdomen buff-grey, the latter with transverse darker bands. Fore wings greyish buff, irrorated with violaceous-brown scales, especially in cell and along costal margin; a dark streak on inner margin from base to post-medial; a dark streak on discocellular; the postmedial punctiform, indistinct; indistinct paired brown streaks between veins from cell to outer margin; a terminal row of darker spots, preceded by fine dark lunular lines, very indistinct; an oblique subterminal dark line above vein 3. Hind wings whitish, the outer margin narrowly fuscous.

Expanse, ♂ 36 mm.

The female is darker and more distinctly marked, the hind wings more smoky white.

Expanse 43 mm.

Hab. Juan Vinas, Guapiles, Tuis.

Marthula rufescens, sp. n.

♂. Palpi, head, and collar brown. Thorax deep velvety reddish brown, the patagiæ lilacine. Abdomen above dull grey-brown, sublateral black tufts on last two segments. Fore wings brown shaded with lilacine at base, on inner margin, medially in and below cell, and on outer margin below vein 3; costal margin medially broadly shaded with reddish; lines shaded with lilacine; the subbasal inset on costa, geminate from median to submedian; the antemedial and postmedial geminate, hardly visible on costa; the subterminal nearly straight; a large linear spot at end of cell; marginal dark spots between the veins. Hind wings brown.

Expanse, ♂ 35 mm.

♀. The collar dark brown. The wings more uniformly lilacine brown; no reddish shade on costa. Hind wings fuscous brown. Underneath: the fore wings are brown, the

outer margin broadly greyish; the costal margin narrowly shaded with buff.

Expanse 40 mm.

Hab. Sixola, Juan Vinas, El Sitio.

Eragisa barnesi, sp. n.

Palpi, head, and thorax pale olivaceous shaded with brown. Abdomen above brown, the last two segments olivaceous grey; underneath ochreous. Fore wings light olivaceous shaded with darker olive; from base of costa a roseate brown line, irregularly oblique and edged with dark olivaceous to inner margin and also to costa, connected by a straighter fine dark line; an antemedial, fine, lunular, olivaceous line, followed by a roseate brown band edged with dark brown, slightly oblique and dentate on inner margin; an irregular linear spot at end of cell, and above it a dark oblique line from costa joining a dentate dark olivaceous line from costa to inner margin, which is followed by a roseate brown band, straight from costa to inner margin near tornus; this is partly shaded with white, outwardly edged with dark brown, and closely followed by another dentate dark olivaceous line; a marginal dark shade emitting streaks on veins, and heaviest between veins 4 and 5; a terminal brown line, interrupted by the veins, outwardly edged with white and followed by dark olivaceous spots. Hind wings dark brown; some yellowish hairs at base; the outer margin finely and fringe pale yellow; traces of a dark medial line angled above anal angle, where it is darker, and edged below with a small whitish spot and dark point. Underneath violaceous brown, the base ochreous, the outer margins yellowish.

Expanse, ♂ 57, ♀ 65 mm.

Hab. Juan Vinas, Tuis, El Sitio, Guapiles, Sixola.

Named after Mr. J. Barnes, who assisted me in my discoveries.

Eragisa juvenis, sp. n.

Palpi dark velvety brown, streaked in front with grey; third joint also grey. Head and thorax grey. Abdomen above fuscous; a subdorsal white line; last segments whitish grey. Fore wings grey-white, thinly irrorated with dark scales; a dentate, fine, dark, antemedial line, outwardly oblique from costa to middle of inner margin, with an ochreous point on subcostal; a small white spot at end of cell; a postmedial dark spot on costa, followed by a fine dark line, incurved beyond cell, indentate on vein 2, outwardly edged in

places with bright yellow; a marginal dark line, interrupted by the veins, straight from apex to vein 3, then wavy. Hind wings brown; the fringe white. Underneath fuscous shaded with white on extreme margins.

Expanse 48 mm.

Hab. Sixola.

Eragisa nox, sp. n.

♂. Head, thorax, and last segments of abdomen above blue-black; abdomen otherwise dark brown, with dark subdorsal tufts basally, and some ochreous shadings at base underneath. Fore wings blue-black; small brownish spots along costa; a faint antemedial line, outwardly oblique from costa across cell; a vague discal spot partly outlined with light brown; some postmedial velvety points between veins, the largest between 2 and 4, followed by a fine geminate line barely discernible; a very faint subterminal dull shade; small marginal dark velvety-brown spots inwardly shaded with lighter brown; a terminal dark brown line, with faint brown points on fringe at tips of veins. Hind wings dark brown; some luteous hairs at base and on inner margin; a dark spot at angle cut by a pale line. Underneath dull dark brown; light brown spots on outer half of costa of fore wings; the base of hind wings below costa ochreous.

Expanse, ♂ 62 mm.

The female more of a dull dark brown; the discal spot ochreous; the postmedial with white points on veins; the subterminal more distinct, tinged with buff. Hind wings with the fringe pale ochreous. Underneath the outer margins are narrowly yellowish buff.

Expanse 64 mm.

Hab. Juan Vinas, Guapiles.

Farigia albicans, sp. n.

♂. Body above mottled brown and white, producing a greenish effect. Fore wings white thinly irrorated with brown; some brown and green at base below cell; the inner margin narrowly light green; a fine greyish geminate line from middle of costa, inwardly oblique to below cell, then wavy; a black point at end of cell, closely followed by a fine greyish curved line to middle of inner margin; the postmedial fine, dark, geminate filled in with light green, which extends slightly beyond it; a grey-brown shade on costa beyond postmedial; a shade between veins 3 and 4 and a broad terminal similar shade between 4 and 6; a dark

marginal line oblique subapically, nearly straight from 6 to 4, then inset in interspaces below; fringe grey-brown spotted with white. Hind wings light brown; the fringe terminally white. Underneath dirty white; the costa of fore wings broadly shaded with brown; the outer margin irrorated with brown.

Expanse, ♂ 40 mm.

The female is more heavily irrorated with grey, the lines rather coarser. Underneath both wings are thickly irrorated with brown.

Expanse, ♀ 53 mm.

Hab. Juan Vinas.

Farigia foliata, sp. n.

♂. Palpi whitish in front, dark brown laterally. Head, collar, and thorax whitish mottled with brown. Abdomen above dark brown irrorated with grey. Fore wings green; the lines and veins on outer margin dark brown; basal third of costal margin to just below cell whitish irrorated with brown, crossed by a dentate basal line and limited by a geminate line inwardly oblique from costa to median vein, then inset and wavy to inner margin; the postmedial wavy, geminate, excurved and very indistinct, followed by a dark shade below costa, on vein 6, and between veins 3 and 4; a lunular marginal line; fringe dark brown. Hind wings dull dark brown, the fringe terminally whitish. Underneath brown; a smoky shade on disk of fore wings and a broad medial darker brown shade on hind wings.

Expanse, ♂ 44 mm.

The female has the basal white patch suffused with grey and brown, so that it is almost obliterated.

Expanse 56 mm.

Hab. Juan Vinas, El Sitio, Tuis.

Farigia tulana, sp. n.

♂. Palpi brown, irrorated with white in front. Head, collar, and thorax white, with a few brown hairs. Abdomen above brown, the terminal segments irrorated with grey. Fore wings: the base brownish, followed by a large white patch on costal margin and cell, extending slightly below it, limited by a curved dark brown line, heavily marked just below cell, and partly geminate; the inner margin broadly shaded with light green and mottled with brown scales; above vein 2 and outwardly the wing is greyish brown, with a darker patch at end and just beyond end of cell, also

irrorated with green; the postmedial is dark brown, lunular, barely curved, most heavily marked below vein 2; a marginal dark line broken by veins. Hind wings light brown, with a terminal darker shade. Underneath whitish brown, with dark brown hairs on outer half of costa of hind wings.

Expanse, ♂ 32 mm.

The female has the outer margin beyond postmedial whitish grey.

Expanse, ♀ 44 mm.

Farigia moresca, sp. n.

Palpi buffish in front, dark brown behind. Head, collar, thorax, and subdorsal tufts on abdomen dark reddish brown, mottled with white hairs. Abdomen above reddish brown irrorated with grey, underneath luteous. Fore wings dull brown-grey shaded with green at base, along inner and outer margin, and on antemedial and postmedial lines, which are geminate, blackish, and rather ill-defined; a subbasal dark spot below cell; a dark shade between veins 3 and 4 and a dark costal patch beyond postmedial, all irrorated with green; a brown spot at end of cell; a marginal irregular black line, very marked; fringe dark brown, with buff spots at end of veins. Hind wings dark brown; the fringe terminally whitish spotted with white. Underneath brown, the spots on fringe more distinct.

Expanse, ♂ 43, ♀ 52 mm.

Hab. Juan Vinas, Guapiles, Sixola, Tuis.

Eustema sericea, sp. n.

♂. Legs and head black-grey. Thorax and abdomen rufous brown, the latter with transverse ochreous lines posteriorly on segments. Wings silky grey, the veins somewhat darker. Fore wings: a faint postmedial dark grey shade slightly curved below costa. Hind wings: some brownish hairs on inner margin.

Expanse 57 mm.

Hab. El Sitio, Juan Vinas, Tuis.

Allied to *Eustemides carama*, Druce, in appearance, but belonging to genus *Eustema*.

Heterocampa mullinsi, sp. n.

♂. Palpi buff, outwardly shaded with green. Head green, with black shadings on vertex. Collar green, with white scales posteriorly. Thorax brown; patagia green. Abdomen

brown above, with subdorsal green tufts, large on second segment; last two segments paler; ventrally whitish. Fore wings dark green; a large brown space from end of cell, not reaching costa, extending to vein 2, and limited by a subterminal darker brown irregular and angular shade, crossed by the brown discocellular streak, and a geminate postmedial lunular line; some fine black basal lines; at a third from base on costa a deeply dentate, geminate, dark line to middle of inner margin; a broad dark brown streak on basal half of inner margin; the subterminal preceded on inner margin by a short white streak; an interrupted terminal black streak; dark spots on fringe at ends of veins. Hind wings white; the costa broadly brown, crossed by a dark postmedial shade and a pale subterminal line; the inner margin tinged broadly with dark buff; a terminal dark line; fringe buff, green at apex.

Expanse 46 mm.

♀. The outer margin of hind wings fuscous.

Expanse 60 mm.

Hab. Juan Vinas, Tuis, Sixola.

This fine species is named after Mr. W. E. Mullins, manager of the northern railway of Costa Rica, to whom I am greatly indebted for innumerable kindnesses.

Heterocampa editha, sp. n.

Legs reddish brown and buff, streaked in front with dark brown and green; fore coxæ steel-grey. Palpi green in front, dark reddish brown behind and laterally. Head greenish. Collar and thorax brown, the patagia shaded with green. Abdomen light reddish brown above, a large blackish subdorsal tuft at base. Fore wings pale green; the basal third dark violaceous brown, mottled with green and black, limited by a reddish-brown line, slightly oblique outwardly from costa, and closely followed by an irregular fine darker line; a fine, dark, dentate medial shade, interrupted by an irregular pale buff spot at end of cell, containing two dark points on discocellular; a postmedial, reddish-brown, lunular, partly geminate line; an oblique greyish shade from below end of cell to outer margin just above tornus; a dark shade on costa from postmedial to near apex, with four pale points; a subterminal fine shade, dark near costa, interrupted below vein 4, consisting of two dark spots above submedian, and followed by a dark grey-black shade above vein 4; a marginal brown shade. Hind wings yellowish white, the veins and margins shaded with light reddish brown; a faint

postmedial line and some darker scales on inner margin near angle.

Expanse 44 mm.

The female has the line on hind wings more distinct and the outer margin broadly light reddish brown.

Expanse 59 mm.

Hab. Juan Vinas, El Sitio, Tuis.

Heterocampa vivida, sp. n.

Palpi light brown, a dark streak behind. Head green. Tegula and patagia green, partly edged with buff-brown. Thorax brown. Abdomen above greyish brown. Fore wings rich green; the lines brown, partly shaded with buff and dark brown; a curved basal line and streak on base of inner margin; the antemedial very dentate; the postmedial lunular, oblique from costa, then nearly straight to inner margin; a large whitish spot at end of cell, crossed by dark discocellular; subterminal brown spots, broadly shaded with whitish, basally dentate towards costa; terminal white points; fringe brownish, with darker spots. Hind wings whitish, the veins dark; the costal margin green, crossed by a whitish line near apex, which continues as a faint greyish postmedial line; the outer margin irrorated with dark grey, which spreads over nearly the entire wing in the female; fringe buff, with dark points.

Expanse, ♂ 46, ♀ 53 mm.

Hab. El Sitio, Tuis, Juan Vinas.

Heterocampa hemicera, sp. n.

♂. Head and thorax lilacine brown; the patagia tipped with grey. Abdomen above dark dull brown, the anal segment and tufts greyish fawn. Fore wings fawn-colour; the costal margin shaded with lilacine; the outer margin below vein 4 shaded with grey, and a similar shade at base below cell; a lilacine grey shade from postmedial to apex; a fine dark streak along median; two dark points on discocellular, the lower one edged with white; a basal geminate inner and an outer oblique brownish shade on costa, the commencement of lines, the outer line curving around end of cell and faintly visible to inner margin; a faint geminate postmedial line, punctiform on veins; from vein 2 a dark reddish-brown shade to apex extending to outer margin above vein 4; on this dark shade the veins are blackish; fringe fawn-colour. Hind wings dull dark brown, the fringe luteous.

Expanse, ♂ 40, ♀ 45 mm.

In the female the dark shade from vein to apex is somewhat suffused with violaceous black.

Hab. Juan Vinas, Sixola, Tuis, Guapiles.

Rifargia nebulosa, sp. n.

♂. Body grey above, white underneath; a reddish-brown shade posteriorly on collar. Fore wings grey, palest in discal area and thinly irrorated with brown; a black basal line, angled on subcostal, followed by a brown spot on costal margin; a fine dark geminate antemedial line, wavy, indented on submedian; a large, linear, irregularly lunular spot at end of cell; the postmedial geminate, lunular, dark brown, curved beyond cell, followed by broad brown shadings, especially towards costa and apex; a dark marginal wavy line and dark brown streaks on veins beyond postmedial. Hind wings white; a dark grey shade on inner margin; the outer margin narrowly grey. Underneath white; dark streaks on veins towards apex of fore wings.

Expanse, ♂ 36 mm.

♀. More uniformly grey, with brown costal spot near base; the subapical shadings more reddish brown; the hind wings more greyish, with the veins on outer margin more heavily marked with grey.

Expanse 41 mm.

Hab. Avangarez.

Another female from the same locality has both wings smoky grey; the fore wings darker, with faint traces of the discal spot and subterminal brown shadings; the marginal line is alone distinct.

Expanse 44 mm.

A female from Tuis has the body above and fore wings black, some white at base of antennæ; the end of cell and space beyond to subterminal shade white, from veins 2-7 crossed by a blackish shade in end of cell and between 4 and 6; the hind wings are white, the veins terminally and margins narrowly black.

Expanse 44 mm.

This last form may be a distinct species, for which I propose the name of *medioclara*.

R. nebulosa is allied to *R. felderi*, Schs., and *R. bichorda*, Hamps.

Naprepa flexifera, sp. n.

Head and thorax dark violaceous brown, irrorated with black and buffish-grey scales, the latter on tips of thoracic

tufts. Abdomen above brown; a dark subdorsal spot at base. Fore wings brown tinged with violaceous, somewhat paler on inner margin; a very deeply dentate inner line, fine, black, inwardly shaded with lighter brown in cell, and outwardly so shaded below cell; a large irregular spot at end of cell finely outlined with whitish buff; a somewhat similar outer line crossed by a dark wavy postmedial shade curved around cell; on outer angles of outer line clusters of black and light brown scales, connected by a wavy light brown shade, and a white line above submedian; a dark shade between 3 and 4; a wavyly dentate light brown line, partly shaded outwardly with dark brown; terminal diverging black streaks at ends of veins. Hind wings brown; some light brown shadings at anal angle surmounted by a white and a black streak; a terminal black line, cut by the veins, which are buff at their tips; fringe light brown. Underneath the abdomen and wings are buff, irrorated with brown except on discal area of fore wings, which is light fuscous without irrorations.

Expanse, ♂ 98, ♀ 108 mm.

This species is very close to *Naprepa houla*, Dyar, and I should hardly have considered it distinct had a specimen not been labelled by him as new.

PROCOLAX, gen. nov.

Differs from *Colax*, Hübn., in having vein 10 on fore wings from beyond 7, and the female has the antennæ fasciculate.

Procolax apulana, sp. n.

♂. Head and abdomen above grey-black; collar dark grey-brown. Thorax lilacine buff, the patagia reddish brown. Abdomen underneath brownish. Fore wings reddish brown, the veins partly black; the costal margin dark brown and black irrorated with buff scales; the lines dark brown; the basal nearly straight, followed by a broad dark shade; the antemedial slightly excurved; the post-medial nearly straight, somewhat lunular below vein 4; a medial dark shade from costa, widening on inner margin; the inner margin narrowly shaded with lilacine; a long silver streak on discocellular containing a reddish-brown streak; a small silver spot in cell medially below subcostal; a sub-terminal lilacine shade, somewhat incurved below vein 4 to tornus, beyond which the outer margin is shaded with lilacine

and dark grey, the latter forming terminal blotches irregularly defined by a fine whitish line, edged with silver at apex; vein 4 beyond postmedial rather heavily shaded with black. Hind wings soiled white, thinly scaled; the costal and inner margins broadly fuscous, the outer margin narrowly so.

Expanse, ♂ 77, ♀ 94 mm.

Some specimens are considerably smaller.

Hab. Juan Vinas, Tuis.

LXIII.—*Rhynchotal Notes*.—LII. By W. L. DISTANT.

Australasian Pentatomidæ (concluded from p. 481).

MYAPPENA, gen. nov.

Head about as long as broad between eyes, the lateral lobes considerably divergently spinously produced in front of the apex of the central lobe, the lateral lobes are also longly longitudinally produced from near their base to the base of the first joint of the antennæ; ocelli near eyes; antenniferous tubercles prominently spinous externally; antennæ four-jointed, first joint stoutest, sparingly strongly hirsute, longly produced in front of head, second joint about twice as long as first, third and fourth subequal, each much shorter than second; pronotum about half as long as breadth between the lateral angles, the lateral margins strongly sinuate and in front of the posterior angles dentate, the angles shortly obtusely spinously subprominent, basal margin truncate in front of scutellum, anterior margin slightly concave; scutellum much longer than broad at base, the apical area attenuated, a small black foveate spot at each basal angle; corium about as long as pronotum and scutellum together, the lateral margins a little rounded, the apical margins oblique; membrane passing the abdominal apex, the veins longitudinal; rostrum passing the anterior coxæ, first joint about or almost reaching base of head, second and third joints subequal in length; abdominal segments 1-5 with a transverse strigose vitta behind the spiracles; legs moderately long, posterior legs longest, posterior femora sulcate beneath and with two short spines near apex; tarsi triarticulate.

This genus appertains to the group of genera distinguished as *Platycoraria*, Bergr. (a name since altered by Kirkaldy to *Diemeniini*).